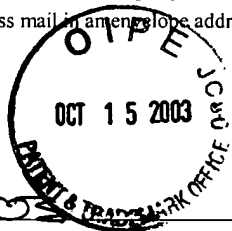


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On

Oct. 6, 2003



PATENT
Attorney Docket No.: 015389-002640US
Client Reference No.: 018/213C

TOWNSEND and TOWNSEND and CREW LLP

By:

Nicole M. Wartell
Nicole M. Wartell

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Thomas Cech et al.

Application No.: 10/044,692

Filed: January 11, 2002

For: HUMAN TELOMERASE
CATALYTIC SUBUNIT: DIAGNOSTIC
AND THERAPEUTIC METHODS

Examiner:

Art Unit:

SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT UNDER 37
CFR §1.97 and §1.98

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The references cited on attached form PTO/SB/08A and PTO/SB/08B are being called to the attention of the Examiner. Copies of the references are enclosed. It is respectfully requested that the cited references be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

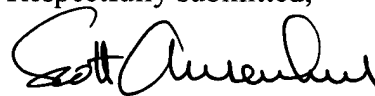
As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no

representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

Applicant believes that no fee is required for submission of this statement.

However, if a fee is required, the Commissioner is authorized to deduct such fee from the undersigned's Deposit Account No. 20-1430. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Respectfully submitted,



Scott L. Ausenhus
Reg. No. 42,271

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60037334 v1

OCT 15 2003

PTO/SB/08A (08-03)

Substitute for form 1449

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

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Sheet 1 of 5

Complete if Known

Application Number	10/044,692
Filing Date	January 11, 2002
First Named Inventor	Cech
Art Unit	
Examiner Name	
Attorney Docket Number	015389-002640US

U.S. PATENT DOCUMENTS+

Examiner Initials*	Cite No. ¹	Document Number		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
	A1	US-5,597,697		01-28-1997	Diamond	
	A2	US-5,917,025		06-29-1999	Collins	
	A3	US-6,166,178		12-26-2000	Cech et al.	
	A4	US-6,309,867		10-30-2001	Cech et al.	
	A5	US-6,337,200		01-08-2002	Morin	
	A6	US-6,475,789 B1		11-05-2002	Cech et al.	
	A7	US-6,610,839 B1		08-26-2003	Cech et al.	
	A8	US-6,617,110 B1		09-09-2003	Cech et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document			Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	† ⁶
		Country Code ³	Number ⁴	Kind Code ⁵ (if known)				
	B1	GB	2 317 891	A	04-08-1998			<input type="checkbox"/>
	B2	PCT	WO 93/23572	A1	11-25-1993			<input type="checkbox"/>
	B3	PCT	WO 94/17210	A1	08-04-1994			<input type="checkbox"/>
	B4	PCT	WO 98/14592	A2	04-09-1998			<input type="checkbox"/>
	B5	PCT	WO 98/14593	A2	04-09-1998			<input type="checkbox"/>
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	B7	PCT	WO 99/33998	A2	07-08-1999			<input type="checkbox"/>
	B8	PCT	WO 99/38964	A2	08-05-1999			<input type="checkbox"/>
	B9	PCT	WO 00/46355	A2	08-10-2000			<input type="checkbox"/>

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 2 of 5

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Application Number	10/044,692
Filing Date	January 11, 2002
First Named Inventor	Cech
Art Unit	
Examiner Name	
Attorney Docket Number	015389-002640US

NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	C1	ADAMSON, D. et al. "Significant Telomere Shortening in Childhood Leukemia", <i>Cancer Genet. Cytogenet.</i> , 1992; pp. 204-206, Vol. 61	<input type="checkbox"/>
	C2	AUTEXIER, CHANTAL, et al., "Telomerase and cancer: revisiting the telomere hypothesis; Trends in Biochemical Sciences, 1996, pp. 387-391, Vol. 10, No. 21.	<input type="checkbox"/>
	C3	AVILION, A., "Characterization and expression of human telomerase," Dissertation Abstracts International", 1996, pp. 5930-B, Vol. 56, No. 11	<input type="checkbox"/>
	C4	BARINGA, MARCIA, "The Telomerase Picture Fills In", <i>Science</i> , April 25, 1997; pp. 528-529, Vol. 276	<input type="checkbox"/>
	C5	CHIU, et al. "Replicative senescence and cell immortality: the role of telomeres and telomerase (44075)", <i>Proc. Soc. Exp. Bio. Med.</i> , 1997, pp. 99-106, Vol. 214.	<input type="checkbox"/>
	C6	CHONG, L. et al. "A Human Telomeric Protein", <i>Science</i> , Dec. 1995, pp. 1663-1667, Vol. 270.	<input type="checkbox"/>
	C7	COLLINS, KATHLEEN, "Structure and function of telomerase", <i>Current Opinion in Cell Biology</i> , 1996, pp. 374-380, Vol. 8	<input type="checkbox"/>
	C8	COUNTER, C. et al. "Telomerase Activity in Normal Leukocytes and in Hematologic Malignancies" <i>Blood</i> ; May 1, 1995; pp. 2315-2320, Vol. 85, No. 9.	<input type="checkbox"/>
	C9	COUNTER, C. et al. "Telomere shortening associated with chromosome instability is arrested in immortal cells which express telomerase activity", <i>The EMBO Journal</i> ; 1992, pp. 1921-1929, Vol. 11; No. 5, Oxford University Press.	<input type="checkbox"/>
	C10	DE LANGE, T. et al. "Structure and Variability of Human Chromosome Ends"; <i>Molecular and Cellular Biology</i> ; February 1990; pp. 518-527, Vol. 10, No. 2.	<input type="checkbox"/>
	C11	FLAVELL, R. & MATHIAS, R. "Prospects for transforming monocot crop plants", <i>Nature</i> , 12 Jan. 1984, pp. 108-109, Vol. 307.	<input type="checkbox"/>
	C12	FRESHNEY, <i>Culture of Animal Cells, A Manual Basic Technique</i> , p. 4, Alan R. Liss, Inc. New York, 1983.	<input type="checkbox"/>
	C13	Genbank Accession No. A46242; September 21, 1993	<input type="checkbox"/>
	C14	Genbank Accession No. L38903; January 30, 1995	<input type="checkbox"/>
	C15	Genbank Accession No. Q06163; November 01, 1995	<input type="checkbox"/>
	C16	Genbank Accession No. S39696; October 07, 1994	<input type="checkbox"/>

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Sheet 3 of 5

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Application Number	10/044,692
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Art Unit	
Examiner Name	
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NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	C17	Genbank Accession No. S53396; May 5, 1995	<input type="checkbox"/>
	C18	GenBank Accession No. U95964; May 5, 1997	<input type="checkbox"/>
	C19	GenBank Accession No. W70315; June 19, 1996	<input type="checkbox"/>
	C20	GLASER, P. et al. "Bacillus subtilis genome project: cloning and sequencing of the 97 kb region from 325° to 333°" <i>Molecular Microbiology</i> , 1993, pp. 371-384, Vol. 10, No. 2.	<input type="checkbox"/>
	C21	GOODMAN, R. et al. "Gene Transfer in Crop Improvement", <i>Science</i> , 3 April 1997, pp. 48-54, Vol. 236.	<input type="checkbox"/>
	C22	GREIDER, C. "Telomeres, Telomerase and Senescence"; <i>BioEssays</i> ; 1990; pp. 363-369, Vol. 12, No. 8.	<input type="checkbox"/>
	C23	HARLEY, C. "Telomere loss: Mitotic clock or genetic time bomb?" <i>Mutation Research</i> ; 1991; pp. 271- 282, Vol. 256, Elsevier Science Publishers.	<input type="checkbox"/>
	C24	HARLEY, C. & VILLEPONTEAU, B. "Telomeres and telomerase in aging and cancer" <i>Current Opinion in Genetics and Development</i> ; 1995, pp. 249-255, Vol. 5.	<input type="checkbox"/>
	C25	HARLEY, C. et al. "Telomeres shorten during ageing of human fibroblasts", <i>Nature</i> , 31 May 1990; pp. 458-460, Vol. 345.	<input type="checkbox"/>
	C26	HASTIE, N. et al. "Telomere reduction in human colorectal carcinoma and with ageing", <i>Nature</i> , 30 August 1990, pp. 866-868, Vol. 346.	<input type="checkbox"/>
	C27	HEALY, K. C. "Telomere dynamics and telomerase activation in tumor progression: prospects for prognosis and therapy" <i>Oncol. Res.</i> , 1995, pp. 121-130, Vol. 7	<input type="checkbox"/>
	C28	HENDERSON, C. Cancer genetics gene regulates telomerase resulting in death of cancer cells; <i>Gene Therapy Weekly</i> , 11 September 1995.	<input type="checkbox"/>
	C29	HIYAMA, E. et al. "Correlating telomerase activity levels with human neuroblastoma outcomes"; <i>Nature Medicine</i> ; 3 March 1995; pp. 249-255, Vol. 1, No. 3.	<input type="checkbox"/>
	C30	HOLTZMANN, K. et al. "Telomeric Associations and Loss of Telomeric DNA Repeats in Renal Tumors", <i>Genes, Chromosomes & Cancer</i> , 1993, pp. 178-181, Vol. 6.	<input type="checkbox"/>
	C31	JÄHNE, A. et al. "Genetic Engineering of Cereal Crop Plants: A Review", <i>Euphytica</i> , 1995, pp. 35-44, Vol. 85, Kluwer Academic Publishers, Netherlands.	<input type="checkbox"/>
	C32	JOLLIFFE, L.K. "Humanized antibodies: enhancing therapeutic utility through antibody engineering", <i>Int. Rev. Immunol.</i> , 1993, pp. 241-250, Vol. 10	<input type="checkbox"/>
	C33	KIM, N. et al. "Specific Association of Human Telomerase Activity with Immortal Cells and Cancer", <i>Science</i> , 23 December 1994, pp. 2011-2014, Vol. 266.	<input type="checkbox"/>

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Sheet 4 of 5

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Application Number	10/044,692
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Art Unit	
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Attorney Docket Number	015389-002640US

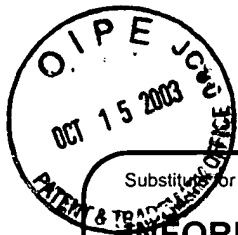
NON PATENT LITERATURE DOCUMENTS

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	C34	KLINGELHUTZ, A. et al. "Restoration of Telomeres in Human Papillomavirus- Immortalized Human Anogenital Epithelial Cells"; <i>Molecular and Cellular Biology</i> ; Feb. 1994, pp. 961-969, Vol. 14, No. 2.	<input type="checkbox"/>
	C35	LEWIS, A. & CROWE, J.S. "Generation of humanized monoclonal antibodies by 'best fit' framework selection and recombinant polymerase chain reaction"; <i>Year Immunol.</i> , 1993, pp. 110-118, Vol. 7	<input type="checkbox"/>
	C36	Linking telomerase and tumors; <i>Genesis Report- Dx</i> ; 1995; Vol. 4, No. 6; Publisher Genesis Group Associates.	<input type="checkbox"/>
	C37	LUNDBLAD, V. & BLACKBURN, E., Letter to the Editor entitled, "RNA-Dependent Polymerase Motifs in EST1: Tentative Identification of a Protein Component of an Essential Yeast Telomerase", <i>Cell</i> , 23 Feb. 1990, pp. 529-530, Vol. 60.	<input type="checkbox"/>
	C38	LUSTIG, ARTHUR J., "The identification of telomerase subunits: catalysing telomere research", <i>Trends in Cell Biology</i> ; August 1997, pp. 299-302, Vol. 7.	<input type="checkbox"/>
	C39	MALICKI, J. et al. "A human <i>HOX4B</i> regulatory element provides head-specific expression in <i>Drosophila</i> embryos", <i>Nature</i> , 23 July 1992, pp. 345-357, Vol. 358.	<input type="checkbox"/>
	C40	NAKAYAMA, J. et al. "Cloning of a Candidate cDNA Encoding a Proteinaceous Component of Mammalian Telomerase", <i>Molecular Biology Cell Abstracts Supp.</i> 7, 1996, p. 875-884, 286a Section 1664.	<input type="checkbox"/>
	C41	NATARAJAN et al. "Major histocompatibility complex determinants select T-cell receptor alpha chain variable region dominance in a peptide-specific response." <i>Proc. Natl. Acad. Sci.</i> , Oct 1992, pp. 8874-8878, Vol. 19.	<input type="checkbox"/>
	C42	PASZKOWSKI, JERZY et al. "Direct gene transfer to plants," <i>The EMBO Journal</i> , 1984, pp. 2717-2722, Vol. 3, No. 12.	<input type="checkbox"/>
	C43	POTRYKUS, I. et al. "Direct gene transfer to cells of a graminaceous monocot", <i>Mol. Gen. Genet.</i> , 1985, pp. 183-188, Vol. 199.	<input type="checkbox"/>
	C44	RAYMOND, E., et al.; Agents that target telomerase and telomeres; <i>Curr. Opin. Biotechnol.</i> ; 1996; 7:583-91	<input type="checkbox"/>
	C45	RHYU, M.S. "Telomeres, telomerase, and immortality"; <i>J. Natl. Cancer Inst.</i> ; 21 June 1995; pp. 884-894, Vol. 87, No. 12.	<input type="checkbox"/>
	C46	SCHENA et al. "Parallel human genome analysis: Microarray-based expression monitoring of 1000 genes", <i>Proc. Natl. Acad. Sci.</i> , Oct. 1996, pp. 10614-10619, Vol. 93, USA.	<input type="checkbox"/>
	C47	SCHWARTZ, H. et al. "Telomere Reduction in Giant Cell Tumor of Bone and with Aging"; <i>Cancer Genet Cytogenet</i> ; 1993; pp. 132-138, Vol. 71, Elsevier Science Publishing Co., Inc., New York, U.S.A.	<input type="checkbox"/>
	C48	SINGER, M. "Unusual Reverse Transcriptases", <i>Journal of Biological Chemistry</i> ; 1995, pp. 24623-23626, Vol. 270, No. 42	<input type="checkbox"/>
	C49	SMITH, J. & YEH, G. "Telomere Reduction in Endometrial Adenocarcinoma"; <i>Am. J. Obstet. Gynecol.</i> ; Dec. 1992; pp. 1883-1887, Vol. 167, No. 6	<input type="checkbox"/>

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Sheet 5 of 5

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	C50	TAIT, J. et al. "Structure and Polymorphisms of the Human Annexin III (ANX3) Gene", <i>Genomics</i> , 1993, pp. 79-86, Vol. 18, No. 1	<input type="checkbox"/>
	C51	WINTER, G. & HARRIS, W. "Humanized Antibodies", <i>Trends Pharmacol. Sci.</i> , May 1993, pp. 139- 143, Vol. 14.	<input type="checkbox"/>
	C52	WIRTH, URS et al; "Immediate-Early RNA 2.9 and Early RNA 2.6 of Bovine Herpesvirus 1 Are 3' Coterminal and Encode of Putative Zinc Finger Transactivator Protein"; <i>Journal of Virology</i> ; May 1992; pp. 2763-2772, Vol. 66, No. 5.	<input type="checkbox"/>
	C53	ZAUG, ARTHUR et al., "Method for determining RNA 3' ends and application to human telomerase RNA", <i>Nucleic Acids Research</i> , 1996, pp. 532-533, Vol. 24, No. 3.	<input type="checkbox"/>

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